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TITLE: Molecular Membrane Biology Gordon Research Conference

PRINCIPAL INVESTIGATOR: Tom Rapoport, Ph.D. Carlyle B. Storm

CONTRACTING ORGANIZATION: Gordon Research Conference
West Kingston, Rhode Island 02892-0984

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Form Approved REPORT DOCUMENTATION PAGE OMB No. 074-0188 Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503 3. REPORT TYPE AND DATES COVERED 1. AGENCY USE ONLY (Leave blank) 2. REPORT DATE Final Proceedings (1 May 99 - 30 Apr 00) July 2000 5. FUNDING NUMBERS 4. TITLE AND SUBTITLE DAMD17-99-1-9470 Molecular Membrane Biology Gordon Research Conference 6. AUTHOR(S) Tom Rapoport Carlyle B. Storm 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) 8. PERFORMING ORGANIZATION REPORT NUMBER Gordon Research Conference

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Report on The Gordon Research Conference for "Molecular Membrane Biology", Proctor Academy July 4-9, 1999

The Gordon Conference brought together leading scientists in the field of protein transport across membranes, protein transport in and out of organelles, protein folding in the ER and regulation of protein folding, ER to Golgi transport, endocytosis, endosomes and Rab proteins, budding and fusion of vesicles, and Golgi assembly and membrane transport. Enclosed is the final schedule of the lectures. In addition, the participants presented a large number of posters. In fact some of the most exciting new results were presented by young investigators in posters. Overall, the meeting was very stimulating and open. On the last day in particular we had a number of lively discussions. The controversies centered around crucial questions in cell biology; for example on the question of how vesicles fuse, how vesicles are transported in cells, and whether organelles are disassembled during mitosis.

Enclosed is a compilation of the evaluations written by the participants and sent to us by the central office for Gordon Conferences. This summary sheet expresses most objectively how the conference was perceived. I believe the most important question asked was whether this was the best conference that the participant attended this year, and as you can see, most participants thought so.

The meeting was generously supported by a number of organizations, and it would not have been possible without this support. We would like to take the opportunity to thank the Department of the Army, Special Project Branch V for the generous support that they provided. It was greatly appreciated.

Tom Rapoport Professor for Cell Biology



GORDON RESEARCH CONFERENCES frontiers of science

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August 25, 1999

To: 1999 GRC Chairs and Vice Chairs

Enclosed please find the results of the questionnaires completed by the conferees at your 1999 Conference. In October, the Board of Trustees and the Selection and Scheduling Committee will review all the meetings that took place in 1999 and decide on future Conference scheduling. This evaluation information will be used by the Board and the S&S Committee in evaluating the Conference. After the meeting, the Board's evaluation and decision about the future scheduling of your Conference will be forwarded to you.

Thank you for helping to keep the Gordon Conferences on the frontiers of science. If you have any questions please do not hesitate to contact us.

Best regards.

Carlyle B. Storm

Director

CBS/lrp

Enclosure

Gordon Research Conferences - Evaluation Data

MOLECULAR MEMBRANE BIOLOGY Proctor Academy 7/4/99 thru 7/9/99

Demographics: 1. Previous GRC's:	None:	050/	44- *:	***								
2. Typical annual Confs:	None: 1 to 2:	25%	1 to 5:	36%	5 to 10:	24%	Over 10:	15	%			
3. Will attend again.:	Yes:	59%	3 to 5:	33%	6 to 8:	7%	Over 9:	1	%			
4. Professional Status:	Student:	90%	Maybe:	10%	No:	0%						
4. Froiessional Status.	Rarch Dir:	4% 2%	Post-Doc: Prg Mgr:	23%	Rarch Sci:	14%	Professor	: 49	%			
5. Employer Type:	Academic:	91%	Gvmnt:	0% 8%	Other: Industry:	8%						
6. Age Group:	20's:	8%	30's:	43%	40's:	1%	POL					
7. Gender:	Male:	72%	Female:	28%	₩ 5.	38%	50's:	10	%	60+:		1%
8. Primary residence:	U.S.:	65%	Non U.S.:	35%								
Total Attended: 145		# of Responses: 99				% of F	Respor	nses:	68%			
Conference Data:												
Science:							Score:	<u>%A</u>	<u>%B</u>	<u>%C</u>	<u>%D</u>	<u>%E</u>
Presentations defined and are	nalyzed the mo	st importa	ant problems a	& opportuniti	es.		1.5	63%	31%	6%	1%	0%
Presentations included a sub	ostantial amoun	t of unpu	blished work.				1.9	37%	40%	15%	8%	0% 0%
3. The meeting was thought-pro	ovoking, stimula	ating, exc	iting.				1.4	61%	33%	6%	0%	0%
4. Presentations were at the "Fi							1.3	70%	25%	5%	0%	0%
5. This was the best Conference	e in this field I a	attended	this year.				1.4	73%	14%	13%	0%	0%
All:							1.5					٠,٠
Discussion:												
 Adequate time for formal disc 							1.4	69%	25%	2%	3%	04/
Discussion was not overly do	minated by one	e person o	or group.				1.4	75%	18%	3%	3% 2%	0%
Discussion Leaders managed	d & stimulated t	he discus	ssions well.				1.7	45%	38%	16%	1%	1% 0%
4. Discussions evoked and expl	lored new resea	arch direc	tions.				1.9	38%	40%	17%	5%	1%
 Adequate time for informal dis All: 	scussion and in	teraction	was allowed.				1.2	84%	13%	2%	1%	0%
-							1.5					
Organization: 1. Presentations were consisten	nt with the state	d noals a	nd objectives	of the Confo	mnaa	•						
2. The meeting did not solely ref	flect the Chairs	field of in	iterest	or the Come	rence.		1.4	72%	20%	7%	1%	0%
3. Good selection of topics.							1.4	70%	23%	3%	3%	0%
4. Attendees were diverse-mix of	of industry, acad	demia es	tablished & n	ew professio	nale		1.4 1.5	64%	30%	3%	2%	0%
5. Pool of Speakers was diverse	& reflected the	compos	ition of this fie	ica biolessic	mais.		1.5	65% 47%	24%	7%	3%	0%
All:							1.5	41 70	41%	9%	2%	1%
Management:												
 Length of talks was appropriat 							1.3	70%	25%	5%	0%	04/
On the whole, Speakers were	held to their all	otted time	е.				1.8	47%	39%	8%	1%	0% 5%
3. There was sufficient "free" tim	e in the day for	informal	discussions.				1.1	92%	7%	0%	1%	0%
4. Good selection of Speakers-i.	e., knew how to	prepare	visual aids &	and give a ta	ılk.		1.4	70%	25%	3%	1%	0%
5 Speakers were readily account	ible before and	after pre	sentations.				1.3	78%	14%	7%	1%	0%
Speakers were readily access							1.4			. ,.	• /•	0.4
All:												
All: Atmosphere: 1. The Conference was more tha	an just a meetin	g, workst	op, or collecti	ion of lecture	s.		1.4	66%	26%	70/	40/	04/
All: Atmosphere: 1. The Conference was more tha 2. An atmosphere for easy excha	ange of informa	tion was	established.	ion of lecture	s.			66% 76%	26% 22%	7% 1%	1%	0%
All: Atmosphere: 1. The Conference was more tha 2. An atmosphere for easy excha 3. The overall Conference atmos	ange of informa sphere was frier	tion was o	established. diquish.				1.3	76%	22%	1%	1%	0%
All: Atmosphere: 1. The Conference was more that 2. An atmosphere for easy exchat 3. The overall Conference atmost 4. Conference business was con	ange of informa phere was frier ducted in an op	tion was o odly, not o en, demo	established. diquish.				1.3 1.5	76% 60%	22% 32%	1% 6%	1% 1%	0% 1%
All: Atmosphere: 1. The Conference was more tha 2. An atmosphere for easy excha 3. The overall Conference atmos 4. Conference business was con 5. The Poster Presenters were si	ange of informa phere was frier ducted in an op	tion was o odly, not o en, demo	established. diquish.				1.3 1.5 1.2	76% 60% 85%	22% 32% 13%	1% 6% 2%	1% 1% 0%	0% 1% 0%
All: Atmosphere: 1. The Conference was more that 2. An atmosphere for easy exchat 3. The overall Conference atmost 4. Conference business was con	ange of informa phere was frier ducted in an op	tion was o odly, not o en, demo	established. diquish.				1.3 1.5 1.2	76% 60% 85%	22% 32%	1% 6%	1% 1%	0% 1%

A: Agree Completely

B: Mild Agreement

C: No Opinion

D: Mild Disagreement E: Disagree Completely

Sunday Evening Chair: Tom Rapoport				
7.30-7.45	Welcome and Introduction			
7.45-8.45	Mike Brown and Joe Goldstein, "How membrane proteases control membrane lipids"			
Monday Morr Chair: Peter N	ning Protein transport across membranes lovick			
8.30-8.45 8.50-9.25 9.25-9.50 9.50-10.15	Group Photograph Art Johnson, "Protein translocation and integration at the ER membrane" Chris Akey, "Co-translational translocation: the channel and the gap" Reid Gilmore, "Transfer of the ribosome-nascent chain complex to the translocon: regulation by Sec61a"			
10.15-10.30 10.30-11.05	Coffee Olaf Schneewind, "Type III machines of Yersinia: how to inject proteins			
11.05-11.40 11.40-12.15	into eukaryotic cells" Walter Neupert, "Protein translocases of mitochondria" Janet Shaw, "Mitochondrial membrane dynamics in yeast"			
Monday Evening Protein transport in and out of organelles Chair: Kathryn Howell				
7.30-8.05 8.05-8.40 8.40-9.15 9.15-9-50	Danny Schnell, "Protein import into chloroplasts" Suresh Subramani, "Protein interactions during peroxisome biogenesis" Erin O'Shea, "Regulation of nucleo-cytoplasmic transport" Dirk Goerlich, "Transport in and out of the cell nucleus"			
Tuesday Morning Regulation inside and across the ER, Protein structure and folding Chair: Lila Gierasch				
9.00-9.35 9.35-10.00	Chris Kaiser, "Pathways for disulfide bond formation in the ER" Maho Niwa, "Intracellular Signaling from the Endoplasmic Reticulum to the Nucleus"			
10.00-10.25 10.25-10.40 10.40-11.15 11.15-11.50 11.50-12.25	David Ron, "Interpreting ER stress signals" Coffee Art Horwich, "GroEL-mediated protein folding" Rod McKinnon, "Structure and function of potassium channels" Doug Rees, "Structure of a mechano-sensitive channel"			
Tuesday Even Chair: Barbara				
7.30-8.05 8.05-8.40	Hugh Pelham, "Traffic to the yeast Golgi complex" Charlie Barlowe, "COPII dependent transport from the ER to the Golgi			
8.40-9.15	complex" Susan Ferro-Novick, "An analysis of TRAPP and other factors that mediate the late stages of EP to Colai transport"			
9.15-9.50	the late stages of ER to Golgi transport" Randy Schekman, "Receptors and specialized COPII subunits involved in secretory and membrane protein cargo recruitment"			

Wednesday Morning Endocytosis Chair: Randy Schekman

9.00-9.35	Ira Mellman, "Cell biology of antigen presentation, or how dendritic cells control the entire immune response"
9.35-10.00	Norma Andrews, "Lysosomes as calcium-regulated exocytic vesicles; a role for synaptotagmnin VII"
10.00-10.25	David Owen, "The structural basis of protein recruitment to coated pits"
10.25-10.40	Coffee
10.40-11.15	Scotti Robinson, "Adaptor protein complexes"
11.15-11.50	Tom Kirchhausen, "Atomic structure of clathrin, coat assembly and cargo sorting"
11.50-12.15	Sito Mayor, "Sphingolipid and cholesterol differentially regulate domains involved in sorting of GPI-anchored proteins in the endocytic pathway of mammalian cells"

Wednesday Evening Endosomes, Rab proteins Chair: Jim Rothman

7.30-7.50	Election of next co-chair
7.50-8.15	Heidi McBride, "Rab5 and downstream effectors in endocytosis"
8.15-8.50	Jonathan Goldberg, "GTPase structure and function in vesicle budding"
8.50-9.15	Catherine Jackson, "Sec7 domain ARF Exchange Factors: Targets of
	Brefeldin A in vitro and in vivo"
9.15-9.50	Suzanne Pfeffer, "Protein transport from endosomes to the TGN"

Thursday Morning Budding and fusion of vesicles, Chair: Suzanne Pfeffer

or

Thursday Evening Chair: Aki Nakano Golgi assembly, signalling and membrane transport

7.30-8.05	Jennifer Lipincott-Schwartz, "ER-Golgi recycling pathways and their role in
0.05.0.40	mitotic Golgi disassembly/reassembly"
8.05-8.40	Vivek Malhotra, "Regulation of Golgi structure in dividing and non-dividing cells"
8.40-9.15 PARTY	Graham Warren, "Biogenesis of the Golgi apparatus"